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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Masanobu Shiota

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7590

12/03/2003

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EXAMINER

SCHECHTER, ANDREW M

ART UNIT

PAPER NUMBER

2871

DATE MAILED 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,560

Applicant(s)

SHIGETA, MASANOBU

Examiner

Andrew Schechter

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 11/25/03
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 15 September 2003 have been fully considered but they are not persuasive.

The amendments to claim 1 distinguish the claimed invention from the prior art of *Dubal* and *Aoki* as argued by the applicants; it does not distinguish it from the prior art of *Kubo*, however. The applicant argues [p. 8] that *Kubo* discloses that the ratio of the areas of region 20 and region 22 is changed, and accordingly, that the areas of the regions 20 and 22 "are very likely different per pixel electrode". This is not persuasive, since they can be "changed" from unequal to equal, and indeed they are shown as having equal areas in Fig. 4, as previously pointed out. The previous rejections in view of *Kubo* are therefore repeated below, modified as required by the amendments.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4, 5, 7, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by *Kubo et al.*, U.S. Patent No. 6,195,140.

Kubo discloses [see Figs. 2 and 4, for instance] a liquid crystal display comprising a liquid crystal layer [25], a first electrode substrate [9] and a second electrode substrate [11], sandwiching the liquid crystal with the first substrate transparent [col. 8, line 28], with the second substrate being provided with first electrode sections [22] having a first thickness and height, and second electrode sections [20] having a second thickness and height, with the first thickness thicker than the second thickness (by the thickness of the layer 23) and the first height higher than the second height (by the thickness of the reflective electrode layer 23 again), and the areas in total being equal [as is evident from Fig. 4]. Claim 1 is therefore anticipated.

The first electrode substrate is transparent (as noted above), and the second electrode substrate is a reflective electrode substrate, so claim 2 is also anticipated. [The examiner notes that it is a "reflective electrode substrate" in the sense that there are reflective electrodes on it. There are also transparent electrodes on it, so *Kubo's* substrate could also be described in more detail as a "transflective" or "transmissive-reflective" electrode substrate.] An area of each first electrode section is equal to the area of each second electrode section, so claim 4 is also anticipated. The sections are arranged in a matrix with the first and second electrode sections adjacent to each other, so claim 5 is also anticipated. A row of first electrode sections extends horizontally, and alternates with a row of second electrode sections, so claim 7 is also anticipated. A

plurality of pairs each having one of the first electrode sections and one of the second electrode sections are arranged in a matrix, so claim 8 is also anticipated.

Allowable Subject Matter

4. Claims 3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 9-11 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art (in particular *Kubo*) does not disclose the device of claim 3, in particular the additional limitation of claim 3 that the predetermined height is in a range from $(1/n) \times \lambda/8$ to $(1/n) \times 3\lambda/8$, with n and λ defined as recited. Claim 3 would therefore be allowable if rewritten appropriately.

The prior art does not disclose the device of claim 6, in particular the additional limitation that the sections are arranged in a matrix so that a group of a specific number of the first and a group of a specific number of the second are adjacent to each other. Here, based on the specification and Fig. 6, the examiner understands "arranged in matrix so that a group of a specific number" to exclude a group of one (the situation in the rejected claim 5), and to exclude alternating rows extending all the way across the display (the situation in the rejected claim 7). Claim 6 would therefore be allowable if rewritten appropriately.

The prior art does not disclose using the recited liquid crystal display in a projector comprising a light source, polarization beam splitter, and projection lens as recited by claim 9. Claim 9 is therefore allowed, as is its dependent claim 10.

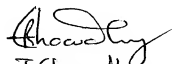
Claim 11 is the previous claim 6 (indicated as allowable) written in independent form, so it is also allowed.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Andrew Schechter
28 November 2003


T. Chowdhury
Primary Examiner